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1 Modules, functions, results, variables

Modules

Paths

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Own modules and functions

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Global variables and datasets

Compute scaling profiles and pr estimates for all quantiles larger than 90%

Compute fractional changes in extremes for all precitation variables

Compute contributions to fractional changes in extremes

Compute fractional changes in convective area

2 Plots

2.1 Definition of convective scale rainfall rates P(CRM)

Plot Hovmuller diagram of precipitation in a GCM grid cell and the most intense 75% of that

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1
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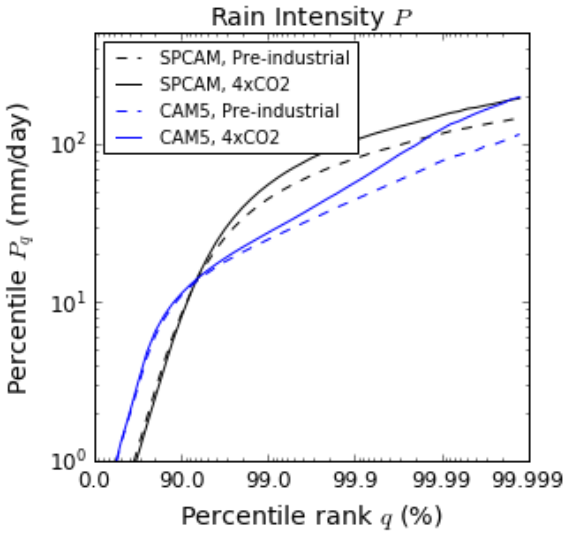
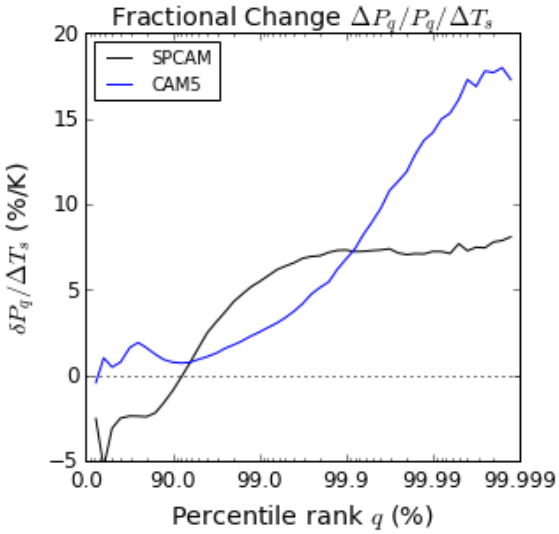
2.2 Percentiles vs. ranks

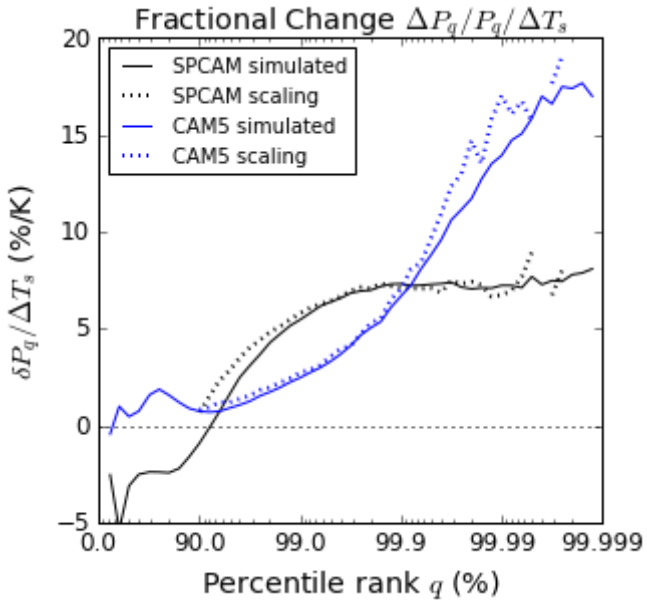
2.2.1 Compare SPCAM and CAM5

Intensities and fractional changes

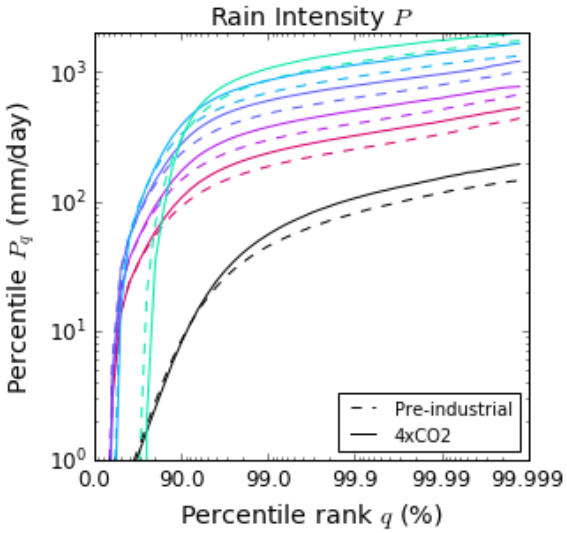


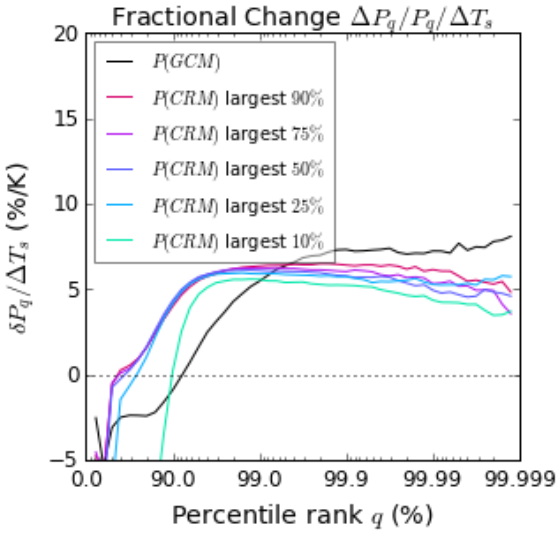


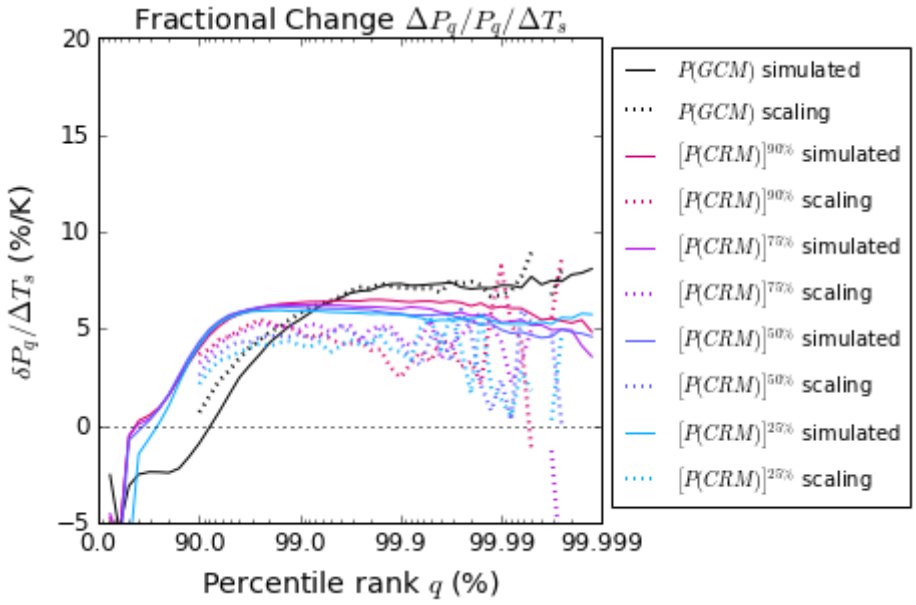
Fractional change with scaling



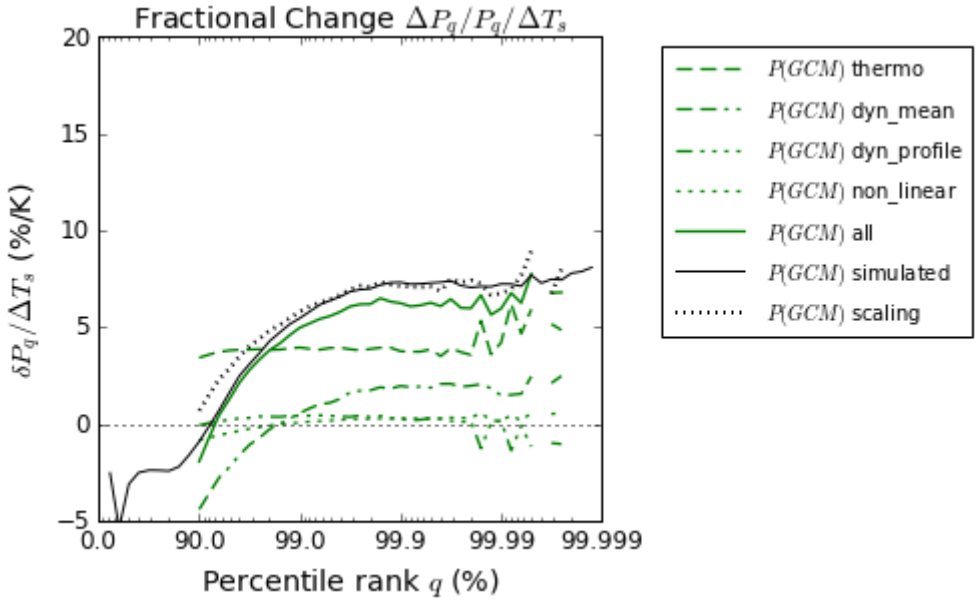
2.2.2 Compare precipitation variables for SPCAM



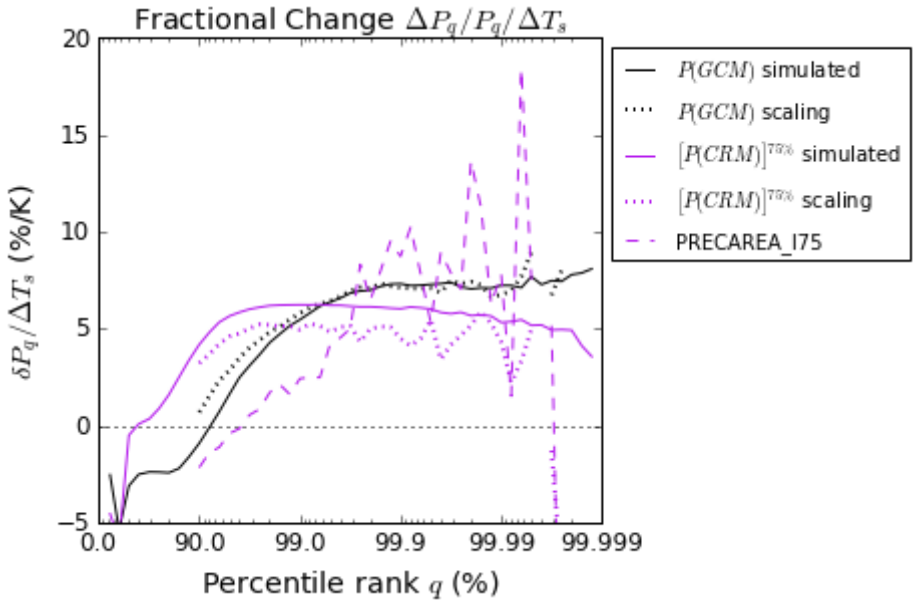




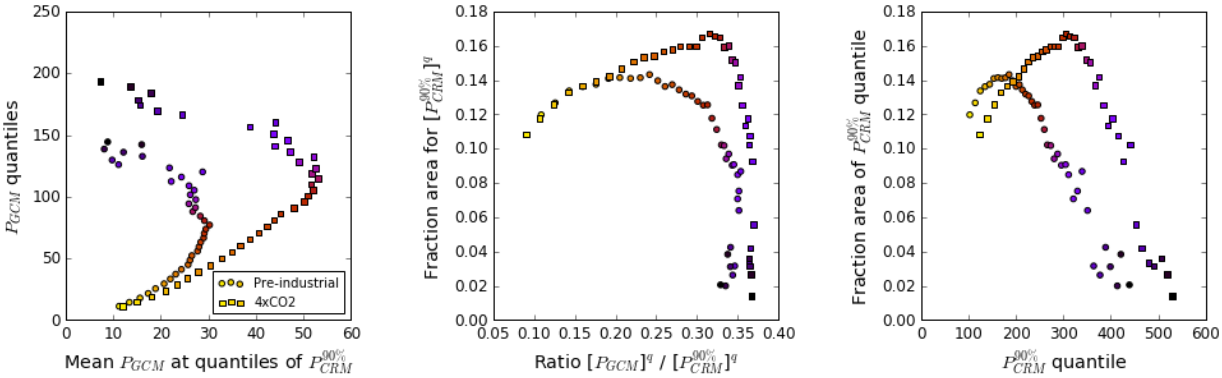
2.2.3 Precipitation scaling and contributions to fractional changes



2.2.4 Relationship P(GCM), P(CRM) and convective area?



Plot P_GCM_q vs. P_GCM(P_CRM_75%_q)



2.3 Joint statistics between two precipitation variables

Plot a 2D heatmap on inverse-logarithmic scale for the x and y axes defined as the percentiles two different precipitation variables. Colors defined on a logarithmic scale.

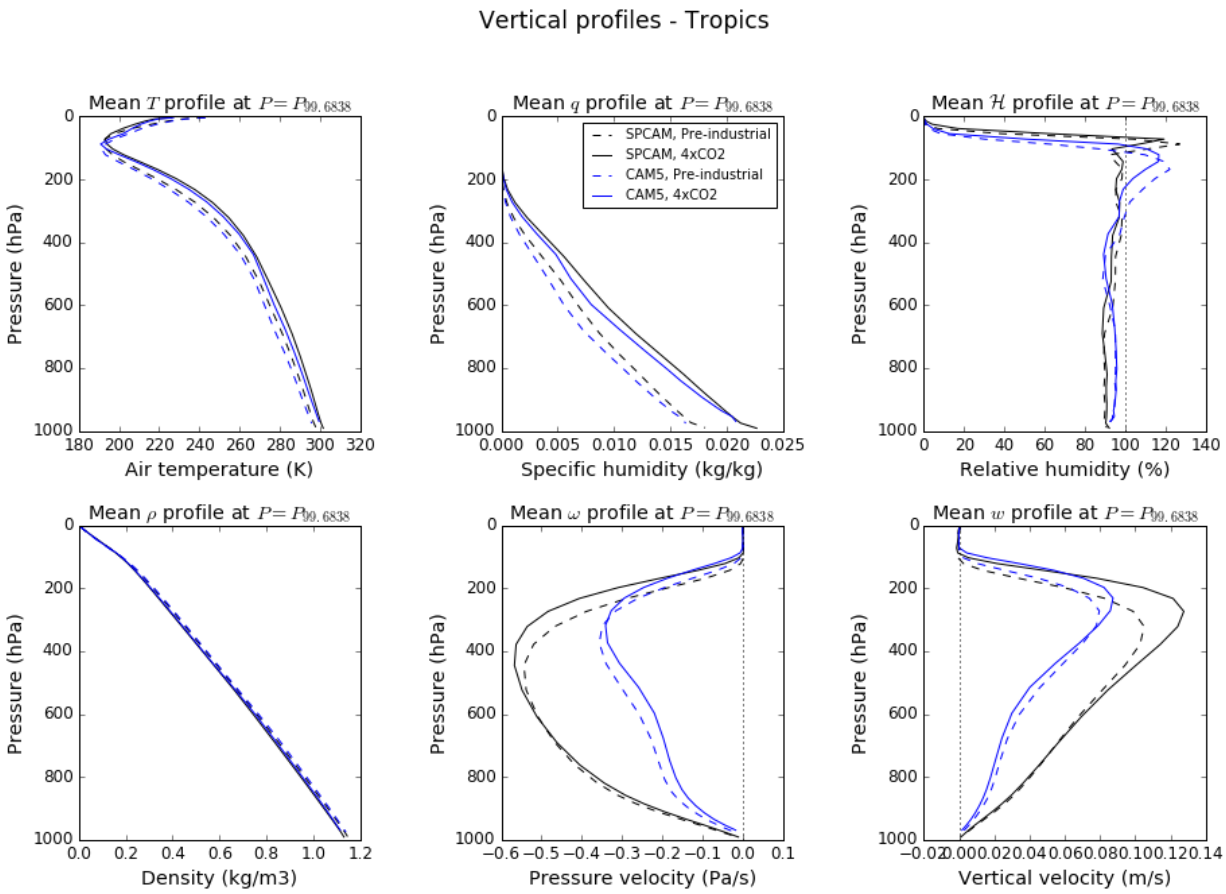
PROBLEM HERE

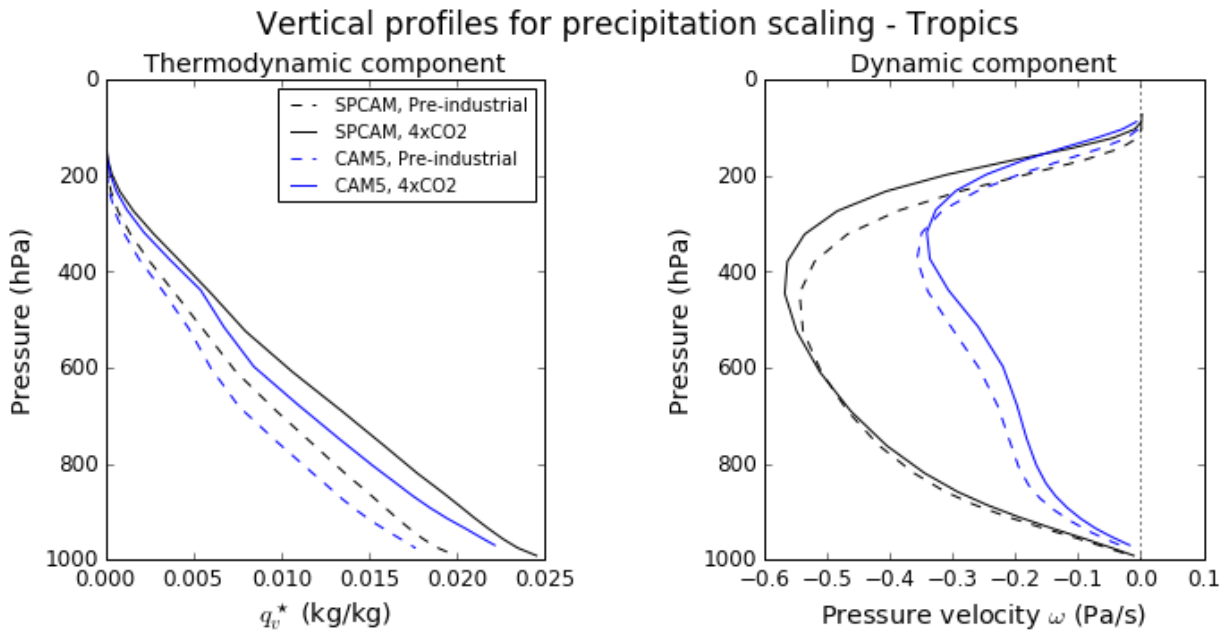
2.4 Vertical profiles

2.4.1 Compare SPCAM and CAM5 for extreme PRECT

Plot abrupt4xCO2 and piControl profiles with two linestyles, SPCAM and CAM5 with two colors. Can then vary the subset (tropics, ocean) and the percentile (96.84,99.0,...,99.99) --> 2x6 separate figures.

Two plots: measured profiles (6 subpots) and scaling (3 subplots: thermo, dyn, total)

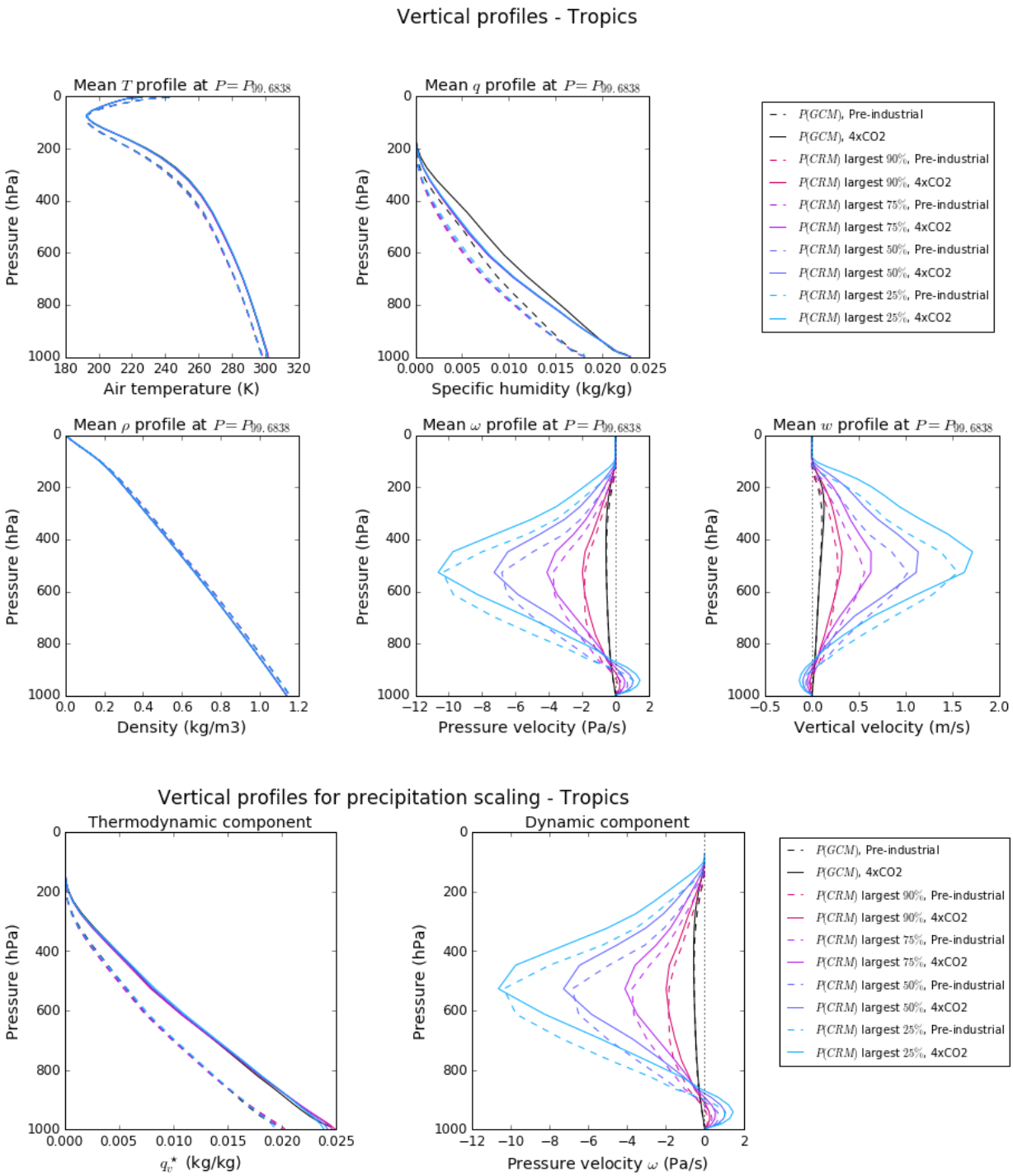




2.4.2 Compare reference precipitation variables for SPCAM

Use colorscale for pr variables, line style for experiment. Can then vary the subset (tropics, ocean) and the percentile (96.84,99.0,...,99.99) --> 2x6 separate figures.

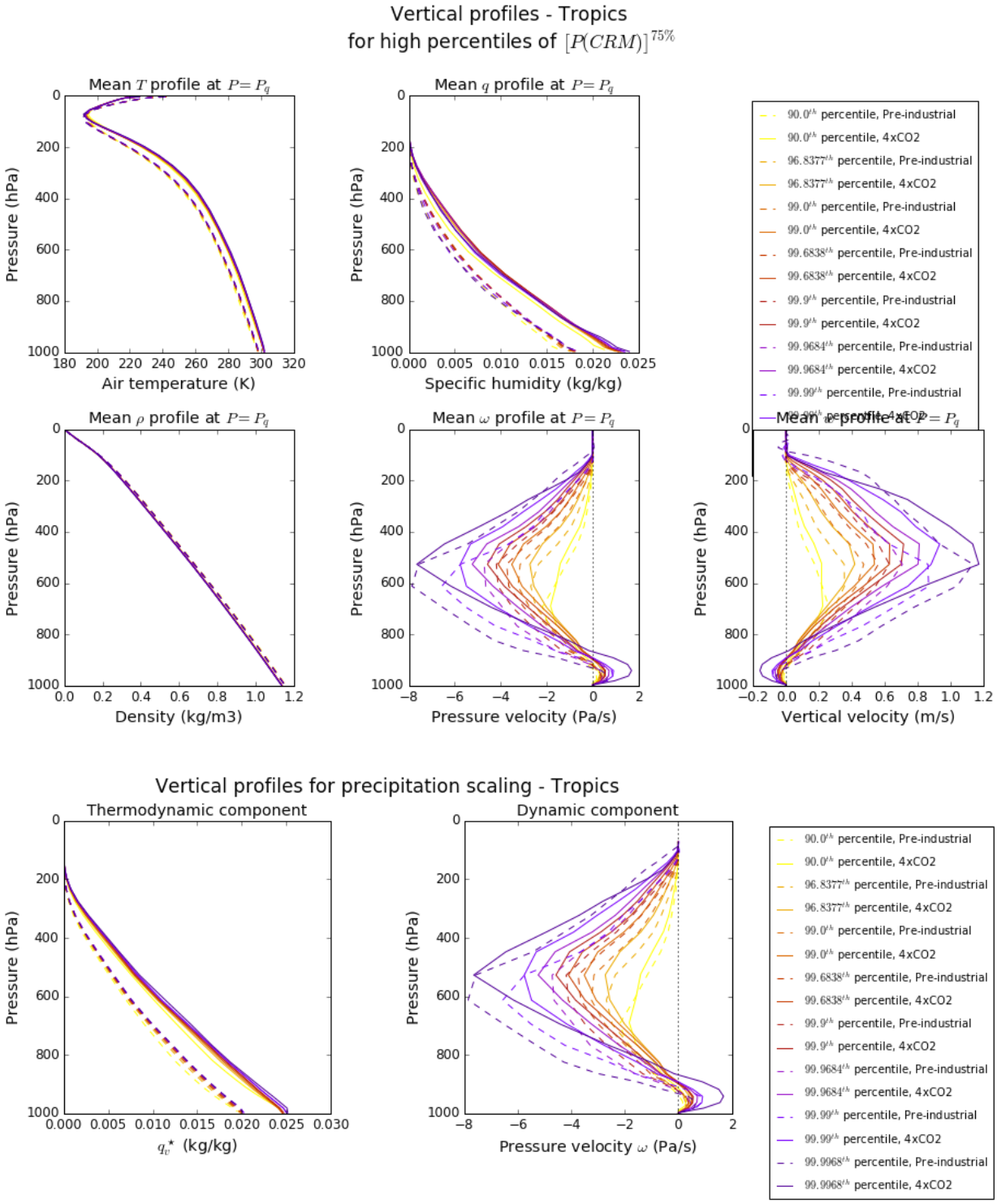
Two plots: measured profiles (6 subpots) and scaling (3 subplots: thermo, dyn, total)



2.4.3 Compare percentiles for SPCAM

Use colorscale for percentiles, line style for experiment. Can then vary the subset (tropics, ocean) and the pr_id (PRECT,CRM_PREC_IXX) --> 2x6 separate figures.

Two plots: measured profiles (6 subpots) and scaling (3 subplots: thermo, dyn, total)



3 Maps

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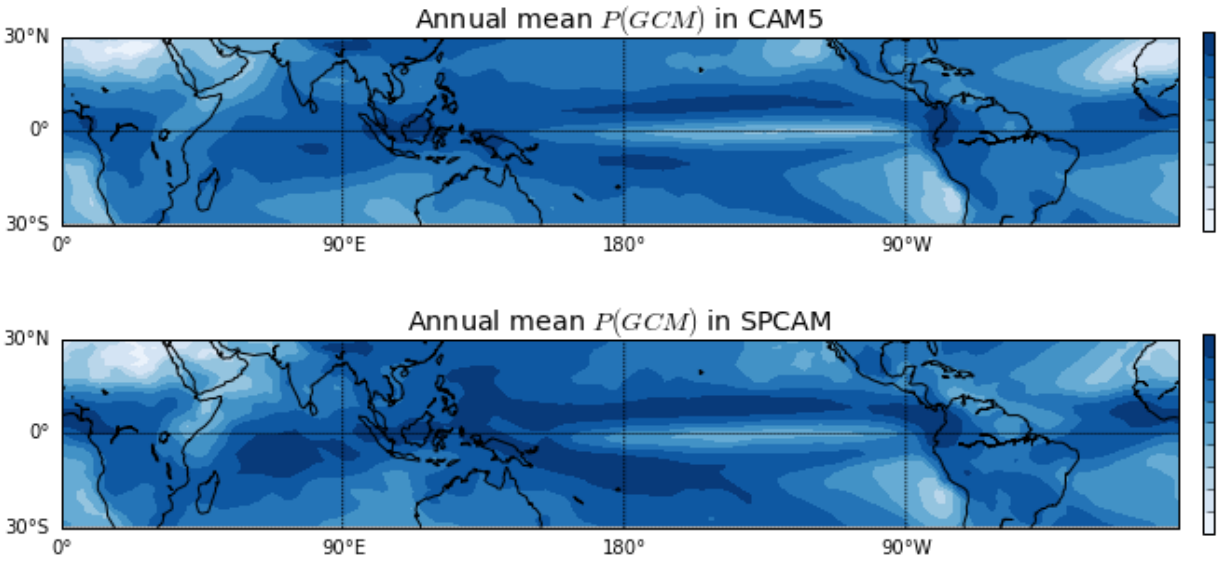
3.1 Annual mean precipitation



3.2 Precipitation frequency above quantiles for various precipitation IDs